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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/620,134 | 07/20/2000 | Srinivasa L. Iyer | 2992-12 | 2823 |

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NIXON & VANDERHYE, PC
1100 N GLEBE ROAD
8TH FLOOR
ARLINGTON, VA 22201-4714

EXAMINER

NGUYEN, CHI Q

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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3635

DATE MAILED: 03/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/620,134

Applicant(s)

IYER, SRINIVASA L.

Examiner

Chi Q Nguyen

Art Unit

3635

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5 and 7-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,7-14 and 17-22 is/are rejected.
- 7) ☒ Claim(s) 15 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 July 2000 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office action is in response to the applicant's amendment filed on 11/17/03.

Claims 1, 2, 14, 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seible (US 6,189,286) in view of Chatelain (US 5,580,480).

Seible teaches modular fiber-reinforced composite structural member comprising a fiber-reinforced outer shell 103 filled with concrete core 105. The tubular housing or shell 103 is made of high-strength carbon fibers or polymer (col. 6, line 35-43), and having a geometrically shaped cross-section (figs. 2a-2c).

Seible does not teach expressly the tubular housing beam having reinforcing rods so that the concrete material surrounding the reinforcing rods. Chatelain teaches structural elements for concrete filled reinforcing by a plurality of metal rods 48 (fig. 6). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Seible with Chatelain for the reinforcing rods embedded in the concrete. The motivation for doing so would have been to provide more strength and stronger concrete beam. Furthermore, having reinforcing rods embedded in the concrete material is old and well known in the construction art.

Seible and Chatelain teach the structural elements for the reinforcing beam except for a Poisson's ratio of the tubular housing is less than the solid material. This is recitation of desired result. Design parameters such as this are a matter of obvious engineering routine wherein the parameter is predetermined and then the engineer sets forth the

materials to meet the parameter. If there is some structural aspect of the beam that is unique to this parameter then the applicant should specifically recite it in the claims. Seible and Chatelain teach the structural elements for the construction beams except for the plurality of beams are secured side-to-side. It would have been obvious one of ordinary skill in the art at the time the invention was made to arrange and secure the beams side-by-side, since it has been held that rearranging parts of an invention involves only routine skill in the art. *Re re Japikse*, 86 USPQ 70. The motivation for doing so would have been to provide a stronger support.

Claims 17-20, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nevin (US 5,675,956).

In regards to method claims 17-20, and 22, Nevin teaches post and pole construction using composite material comprising a plurality of PVC cylinder 10 having outer skin 48, inner confer filled with concrete material 32, reinforcing rod 50 (fig. 4-10). The steps of making the pole or post including provide post with outer weather resistant plastic pour a mixture of concrete into the core (col. 7). Nevin does not explicitly teach the construction beam wherein a Poisson's ratio of the tubular housing is less than the solid material. This is a recitation of desired result. Design parameters such as this are a matter of obvious engineering routine wherein the parameter is predetermined and then the engineer sets forth the materials to meet the parameter then applicant should specifically recite it in the claims.

Claims 3, and 5-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seible (US 6,189,286) in view of Chatelain (US 5,580,480) and further in view of Keesling (US 5,509,759) and Schwager (US 5,960,597).

Seible and Chatelain teach the structural elements for the concrete tubular beams except for the at least one reinforcing rod is stressed using a pre-and-post tension methods in the tubular housing. Keesling teaches pre-stressed cables 14 (cols. 3-4), and Schwager teaches method for post-tensioning cables 122 (fig. 2a) for concrete column 110. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Seible and Chatelain with Keesling and Schwager for teaching methods of pre and post reinforced rods or cables, respectively. The motivation for doing so would have been to provide the reinforced cables to achieve the high stress ranges.

Allowable Subject Matter

Claims 15 and 16 are previously objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art fail to teach or render obvious the claimed combination including a decking system having plurality of concrete filled having at least one transverse aperture for defining a corresponding at least one transverse channel, and at least one reinforcing bar extending through the transverse channel as specifically set forth in the claims.

Response to Arguments

Applicant's arguments filed 11/17/03 have been fully considered but they are not persuasive because: 1) the applicant argues the rejection is misplaced because the prior art do not teach the Poisson's ratio. As mentioned, the Poisson's ratio attains no patentable structures. It's a material parameter or constant. For example the Poisson's ratio for cast steel 0.265, cold-rolled steel 0.287, cast iron 0.211-0.299, etc. They are based on the experimental relation between elongation strain and transverse strain when the tension being applied at the ends of the material specimen. There is no structural aspect of the beam that is unique to this parameter being claimed by the applicant (see above rejections). 2) With regard to the applicant's argument that the prior art do not teach specifically the reinforcing rods being pre-, post- tension or stress before poured in concrete; Examiner considers this is method of forming the beam structure thus is not germane to the issue of patentability of the device itself. Therefore, this limitation has not been given patentable weight.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Chi Q. Nguyen whose telephone number is (703) 605-1224, Mon-Thu (7:00-5:30), Fridays off or examiner's supervisor, Carl Friedman can be reached at (703) 308-0839. The fax number for the organization where this application or proceeding assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-

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CN
CQN
2/25/04


Carl D. Friedman
Supervisory Patent Examiner
Group 3600